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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/517,059	03/02/2000	Douglas Streeter Daudelin	2925-322P	4432

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EXAMINER

GARY, ERIKA A

ART UNIT	PAPER NUMBER
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2681

DATE MAILED: 03/10/2004

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/517,059

Applicant(s)

DAUDELIN ET AL.

Examiner

Erika A. Gary

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 18-22 is/are rejected.
- 7) ☒ Claim(s) 4-17 and 23-25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 18, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Ploeg et al., US Patent Number 5,711,000 (hereinafter Ploeg).

Regarding claim 1, Ploeg discloses a method for monitoring whether a subscriber station is operating in an authorized area of the subscriber station, the method comprising: monitoring an operational composite fingerprint for the subscriber station; and comparing the operational composite fingerprint to a characteristic composite fingerprint for the subscriber station to determine if the subscriber station is operating within the authorized area; the characteristic composite fingerprint being associated it the authorized area [col. 3: lines 7-13; col. 5: lines 5-21].

Regarding claim 2, Ploeg discloses prior to the comparing step, the step of defining the characteristic composite fingerprint for the subscriber station associated with operating in an authorized area [col. 3: lines 7-13; col. 5: lines 5-21].

Regarding claim 18, Ploeg discloses a system for monitoring whether a subscriber station is operating in an authorized area of the subscriber station, comprising: a monitor for monitoring an operational composite fingerprint for the

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subscriber station; and a processor for comparing the operational composite fingerprint to a characteristic composite fingerprint for a subscriber station to determine if the subscriber station is operating in an authorized area; the characteristic composite fingerprint being associated it the authorized area [col. 3: lines 7-13; col. 5: lines 5-21].

Regarding claim 19, Ploeg discloses a storage device for storing the characteristic composite fingerprint for a subscriber station associated with operating in an authorized area [col. 3: lines 7-13; col. 5: lines 5-21].

3. Claims 1, 2, 18, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Barrere et al., US Patent Number 5,715,518 (hereinafter Barrere).

Regarding claim 1, Barrere discloses a method for monitoring whether a subscriber station is operating in an authorized area of the subscriber station, the method comprising: monitoring an operational composite fingerprint for the subscriber station; and comparing the operational composite fingerprint to a characteristic composite fingerprint for the subscriber station to determine if the subscriber station is operating within the authorized area; the characteristic composite fingerprint being associated it the authorized area [abstract; col. 2: lines 42-67; col. 7: lines 8-36].

Regarding claim 2, Barrere discloses prior to the comparing step, the step of defining the characteristic composite fingerprint for the subscriber station associated with operating in an authorized area [col. 2: lines 42-67; col. 7: lines 8-36].

Regarding claim 18, Barrere discloses a system for monitoring whether a subscriber station is operating in an authorized area of the subscriber station,

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comprising: a monitor for monitoring an operational composite fingerprint for the subscriber station; and a processor for comparing the operational composite fingerprint to a characteristic composite fingerprint for a subscriber station to determine if the subscriber station is operating in an authorized area; the characteristic composite fingerprint being associated with the authorized area [abstract; col. 2: lines 42-67; col. 7: lines 8-36].

Regarding claim 19, Barrere discloses a storage device for storing the characteristic composite fingerprint for a subscriber station associated with operating in an authorized area [col. 2: lines 42-67; col. 7: lines 8-36].

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hilsenrath et al., US Patent Number 6,026,304.

Regarding claim 1, Hilsenrath discloses a method for monitoring where a subscriber station is operating, the method comprising: monitoring an operational composite fingerprint for the subscriber station [col. 4: lines 40-50]; and comparing the operational composite fingerprint to a characteristic composite fingerprint to determine where the subscriber station is operating [col. 4: lines 56-67].

What Hilsenrath does not specifically disclose is that the monitoring is done to determine if the subscriber station is in an authorized area. However, at the time of the invention, it would have been obvious to one of ordinary skill in the art to include this feature. The motivation for this modification, as suggested by Hilsenrath [col. 12: lines 64-66] would have been to track the subscriber station for location-based billing and/or prevention of cellular fraud by making sure the subscriber is in an authorized area. Hilsenrath also does not specifically disclose that the characteristic composite fingerprint is for the subscriber station. Hilsenrath discloses that the characteristic composite fingerprint is compiled using a calibration mobile. However, it would have been obvious to use signals from the subscriber station to preserve system resources by not having to involve a second device.

Regarding claim 2, Hilsenrath discloses prior to the comparing step, the step of defining the characteristic composite fingerprint for the subscriber station associated with operating in an authorized area [col. 4: lines 58-62].

Regarding claim 3, Hilsenrath suggests the defining step comprises organizing a first histogram of observations of propagational delays associated with a reverse link transmission of the subscriber station from the authorized area [col. 7: line 66 – col. 8: line 14].

6. Claims 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hilsenrath.

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Regarding claim 18, Hilsenrath discloses a system for monitoring where a subscriber station is operating comprising: a monitor for monitoring an operational composite fingerprint for the subscriber station [col. 4: lines 40-50]; and a processor for comparing the operational composite fingerprint to a characteristic composite fingerprint to determine where the subscriber station is operating [col. 4: lines 56-67].

What Hilsenrath does not specifically disclose is that the monitoring is done to determine if the subscriber station is in an authorized area. However, at the time of the invention, it would have been obvious to one of ordinary skill in the art to include this feature. The motivation for this modification, as suggested by Hilsenrath [col. 12: lines 64-66] would have been to track the subscriber station for location-based billing and/or prevention of cellular fraud by making sure the subscriber is in an authorized area. Hilsenrath also does not specifically disclose that the characteristic composite fingerprint is for the subscriber station. Hilsenrath discloses that the characteristic composite fingerprint is compiled using a calibration mobile. However, it would have been obvious to use signals from the subscriber station to preserve system resources by not having to involve a second device.

Regarding claim 19, Hilsenrath discloses a storage device for storing the characteristic composite fingerprint for a subscriber station associated with operating in an authorized area [col. 4: lines 56-62].

Regarding claim 20, Hilsenrath discloses an antenna monitor for monitoring the number of temporally offset receive signals, originating from a transmission of the

subscriber station, incident upon each distinct uplink antenna set of a base station [fig. 4: ref. 76; col. 6: lines 12-23].

Regarding claim 21, Hilsenrath discloses the monitor comprises a propagational delay measurer for measuring the propagational delays of temporally offset receive signals originating from a transmission of the subscriber station [col. 4: lines 48-50; col. 7: line 66 – col. 8: line 4].

Regarding claim 22, Hilsenrath suggests the characteristic composite fingerprint includes a first histogram of observations of propagational delays associated with a reverse link transmission of the subscriber station from the authorized area [col. 7: line 66 – col. 8: line 14].

Allowable Subject Matter

7. Claims 4-17 and 23-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Regarding claims 4-6, and 23-25, prior art does not suggest or render obvious defining a characteristic composite fingerprint comprising organizing histograms of antenna observations per antenna set, organizing a probability density function, or grouping propagational delay factors based on pseudo-random codes. Regarding claims 7-11, prior art does not suggest or render obvious incrementing antenna set counters and counter bins associated with corresponding observations in a first histogram of propagational delays and in a second histogram of antenna observations. Regarding claims 12-15, prior art does not suggest

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or render obvious determining whether a histogram of propagational delay factors fall within a propagational delay mask; and determining whether a histogram of measured observations of antenna sets fall within an antenna mask. Regarding claims 16 and 17, prior art does not suggest or render obvious determining if a second statistical representation exceeds a maximum outside prominent characteristic of measured observations of propagational delays.

Response to Arguments

8. Applicant's arguments filed February 19, 2003 have been fully considered but they are not persuasive. Applicant argues that Barrere does not disclose comparing an operational composite fingerprint to a characteristic composite fingerprint to determine if the subscriber is operating within an authorized area. However, the Examiner respectfully disagrees. In the abstract of the disclosure, Barrere specifically states that the invention extracts a portion of a transmitted waveform (operational composite fingerprint) and compares the transmission characteristics to a stored fingerprint (characteristic composite fingerprint) of the transmitter or cellular phone (subscriber station). Further the cited portions of Barrere, col. 2: lines 42-67 and col. 7: lines 8-36, teach establishing the reference fingerprint (characteristic composite fingerprint) and comparing it with current transmitted waveforms (operational composite fingerprint). This subsequently determines if the subscriber station is an authenticated station, thus operating in an authorized area of the subscriber station.

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Applicant further argues that Hilsenrath does not disclose comparing an operational composite fingerprint of a subscriber station to a characteristic composite fingerprint of the subscriber station. The Examiner respectfully disagrees. Hilsenrath teaches monitoring an operational composite fingerprint (signal signature) of a subscriber station in col. 4: lines 40-50. Hilsenrath then compares this operational composite fingerprint with a characteristic composite fingerprint (calibrated signal signatures) [see col. 4: lines 56-67]. The calibrated signal signature corresponds to a fingerprint of a mobile station operating in a known area. The difference between Hilsenrath and the present invention is that Hilsenrath's characteristic composite fingerprint is generated by a calibration mobile and not the subscriber station as in the present invention. However, the Examiner maintains that it would have been obvious at the time of the invention to use signals from the subscriber station instead of a calibration mobile to preserve resources by reducing the number of components in the system. Applicant challenges this assertion and states that excess components (phone, GPS receiver, computer) would be required for this modification. The Examiner disagrees as the subscriber station is the "phone" and the GPS receiver and computer function can easily be incorporated into the subscriber station as the computer is only used to transmit the GPS data to the phone. It is well known in the art for subscriber stations to have a GPS receiver wherein the subscriber station transmits the GPS data to a remote location (i.e. base station). Therefore, the Examiner contends that the present invention is obvious over Hilsenrath.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Otten, US Patent Number 5,835,857, discloses position determination for reducing unauthorized use of a communication system.

Stoddard et al., US Patent Number 5,870,672, disclose a validation method and apparatus for preventing unauthorized use of cellular phones.

Anell, US Patent Number 5,905,950, discloses providing fixed cellular functionality.

Kaplan et al., US Patent Number 5,940,751, disclose detection of fraud in a wireless telephone system.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erika A. Gary whose telephone number is 703-308-0123. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, supervisor, Marsha Banks-Harold can be reached on 703-305-4379. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750 or to the 2600 Customer Service Office at 703-306-0377.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for informal or draft communications, please label
"PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal
Drive Arlington, VA., Sixth Floor (Receptionist).

EAG
March 7, 2004


ERIKA GARY
PATENT EXAMINER